

## Optimum time of sowing cotton in the Lower Bhavani Project Area

by

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**INTRODUCTION:** THE LOWER BHAVANI Project covers an area of 2.07 lakh acres of land situated in the taluks of Gobichettypalayam, Bhavani, Erode and Dharapuram in Coimbatore District and a portion of Karur taluk in Tiruchirapalli district. Before the advent of the Project, a major portion of the tract was grown with inferior varieties of cotton like Nadam and Bourbon along with other dry crops. Under the project, the ryots were allowed to cultivate half their holdings with Cambodia cotton. Thus Cambodia cotton came to be cultivated under irrigation in an area of about one lakh of acres every year. This sudden switch over from rain-grown cotton to irrigated Cambodia under the project conditions necessitated information on the optimum time of sowing cotton in the Lower Bhavani Project Area.

**Material and methods:** Experiments were conducted at the Agricultural Research Station, Bhavanisagar, for three consecutive seasons commencing from 1955-'56, to assess the optimum time of sowing MCU. 1—a strain of Cambodia cotton—in the Lower Bhavani Project Area. MCU. 1 was chosen as it is the strain extensively cultivated in the Winter Cambodia Tract where cotton season nearly coincides with that under the project conditions. The experiments were randomised and replicated and included three dates of sowing at fortnightly intervals viz., 10th September, 25th September and 10th October.

**Results and discussion:** The mean data on the final yield of kapas, ginning outturn and the extra profit realised per acre on account of extra lint yield obtained are presented in Table I below:

TABLE I.  
(Mean of three seasons.)

S. No.	Date of sowing	Yield of kapas			Lint yield		Extra profit per acre (Rs.)
		lb. per acre	% increase over 10th October	Ginning percentage	lb. per acre	Increase over 10th October sown crop (lb.)	
1.	10th September	772	130	40.1	310	+79	39.50
2.	25th September	698	118	39.8	278	+47	23.50
3.	10th October	594	100	38.9	231	...	...

Uniformly higher values were obtained for both yield and ginning outturn. The early September sown crop (i. e. on the 10th September) has given the highest kapas yield among the three dates of sowing. As the sowing was delayed, the yield of kapas declined gradually from 772 lb. of kapas per acre in the crop sown on 10th September to 594 lb. of kapas per acre in the crop sown a month later. Similarly, the ginning outturn also showed a downward trend from 40.1 per cent in the 10th September sown crop to 38.9 per cent in the crop sown in October. The lint yield also varied from 310 lb to 231 lb. per acre depending upon the dates of sowing. The early sown crop on account of its higher yielding potentiality contributed towards a higher monetary return. The crop sown on 10th September, accordingly, gave an estimated extra income of Rs. 39.50 per acre over the 10th October sown crop, while the crop sown on 25th September recorded an estimated extra income of Rs. 23.50 only.

The fibre properties and the duration of the crop raised on the different dates of sowing are given in Table II below :

TABLE II.

S. No.	Date of sowing	Mean fibre length (inch)	Fibre Weight (millionth of oz. per inch.)	Maturity percentage (mature + half mature)	Pressley strength index (lb. per mgm.)	Total crop period (days)	Duration of harvest (days)
1.	10th September	0.96	0.149	77	7.41	205	70
2.	25th September	0.92	0.144	79	7.41	191	66
3.	10th October	0.88	0.143	77	7.47	174	59

A steady fall in fibre length was noted with delay in the sowing season. This has an important economic value as the cost of lint is adjudged mainly on the basis of staple length.

Date of Sowing is one of the principal factors that determine the yield of a crop that contributes to the monetary return. Among the various measures advocated to improve crop yields, sowing the crop at the optimum time is the best and also the easiest as it does not involve any extra cost, as in case of other improvements like manuring, inter culture, plant protection etc. Experiments on this important aspect are particularly necessary in the case of crop introductions in new area.

Christidis and Harrison (1955) while reviewing the experiments on the time of sowing cotton conducted in the various cotton growing regions of the world have stated that early sowing increases the boll weight, ginning percent and improves the lint quality. The results of the experiments on the time of sowing MCU. 1 cotton in the Lower Bhavani Project Area have indicated that early sowings are beneficial on account of higher kapas yield and better ginning outturn resulting in increased lint yield and also possess longer staple. The increased yield in the early sown crop is due to the longer period of crop development which has the advantage of more efficient setting of bolls. Dastur (1960) recommends growing of cotton in such a manner that it meets with optimum external conditions for vegetative as well as for the reproductive development. The longer crop period of 205 days in the early September sown crop as against 174 days in the crop sown a month later in October is responsible for higher yields; more fibre length and better ginning outturn. The fall in length in late sowings is associated with reduction in crop period. Since the quality and valuation of a cotton is primarily based on its staple, the reduction in mean fibre length noted in the late sown crop is of considerable practical consequence.

**Summary and conclusion:** The experiments conducted at Bhavani-sagar to find out the optimum time of sowing MCU. 1 cotton in the Lower Bhavani Project Area showed that early sowing is beneficial over late sowings. The early sown crop gave more yield, higher ginning outturn and longer lint compared to the late sown crop. Since yield, ginning outturn and staple length are the primary factors for the grower, trader and the consumer, the need for sowing cotton early in the project area should not be lost sight of.

#### REFERENCES

- Christidis, B. G. and Harrison, S. J. 1955 *Cotton Growing Problems*. McGraw - Hill Book Coy: Inc. New York
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